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(54) NONSILICA OXIDE POROUS MATERIAL AND METHOD FOR PRODUCING THE SAME

(57)Abstract:

PROBLEM TO BE SOLVED: To provide an organic group containing nonsilica oxide material and a nonsilica oxide porous material with uniform mesopores, which have stability in structure and realizing shape control, and a method for producing the same.

SOLUTION: The method for producing the nonsilica oxide porous material comprises adding a silane compound that is connected with organic functional groups having short alkyl chains into a solution containing a surfactant and an inorganic raw material, producing a mesostructure material containing the organic functional groups of the silane compound in the skeleton of the nonsilica oxide, and thereafter removing a part or all of the organic components, and the nonsilica oxide porous material is characterized by having mesopores of from a few nm to several tens of nm and macropores of several hundreds of nm to a few μm, and the nonsilica oxide porous material has a hygroscopic and a water absorptive function.

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2.**** shows the word which can not be translated.
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CLAIMS

[Claim(s)]
[Claim 1] The manufacture approach of the non-silica system oxide porous body characterized by removing a part or all of an organic component after making the meso structure which contains the organic functional group in said silane compound in a non-silica system oxide frame by adding the silane compound connected with the solution with which a surfactant and an inorganic raw material are contained by alkyl chain length's short organic functional group generate.
[Claim 2] The manufacture approach of a non-silica system oxide porous body according to claim 1 that said surface active agent is one or more sorts chosen from from among alkylamine, alkyl-ammonium-salt, alkyl trimethylammonium salt, alkyl triethyl ammonium salt, alkyl pyridinium salt, alkyl polyoxyethylene, or polyoxyethylene-polyoxypropylene-polyoxyethylene block copolymers.
[Claim 3] The manufacture approach of a non-silica system oxide porous body according to claim 1 that said inorganic raw material is one sort and the source of Lynn which are chosen from from among one or more sorts chosen from from among the source of 1 aluminum, the source of titanium, the source of a zirconium, or the source of vanadium or the source of 2 aluminum, the source of titanium, the source of a zirconium, or the source of vanadium.
[Claim 4] The manufacture approach of a non-silica system oxide porous body according to claim 1 that the silane compound connected by alkyl chain length's short organic functional group has one sort chosen from methylene, ethylene, a propylene, or a vinylene radical as an organic functional group.
[Claim 5] The manufacture approach of a non-silica system oxide porous body according to claim 1 that the combustion temperature of the organic functional group in a silane compound is an elevated temperature from the combustion temperature of a surfactant.
[Claim 6] The manufacture approach of a non-silica system oxide porous body according to claim 1 that an extract removes an organic component.
[Claim 7] The manufacture approach of a non-silica system oxide porous body according to claim 1 that baking removes an organic component.
[Claim 8] The non-silica system oxide porous body which is a non-silica system oxide porous body produced by removing a part or all of an organic component from the meso structure which contains the organic functional group in said silane compound in a non-silica system oxide frame, and is characterized by the non-silica system oxide concerned having a meso hole.
[Claim 9]